RESEARCH, DEVELOPMENT & TECHNOLOGY TRANSFER
QUARTERLY PROGRESS REPORT

Wisconsin Department of Transportation
DT1241 02/2011

INSTRUCTIONS:
Research project investigators and/or project managers should complete a quarterly progress report (QPR) for each calendar quarter during which the projects are active.

WisDOT research program category: ☐ Policy research ☒ Wisconsin Highway Research Program ☐ Other ☐ Pooled fund TPF#		Report period year: 2012 ☐ Quarter 1 (Jan 1 – Mar 31) ☐ Quarter 2 (Apr 1 – Jun 30) ☒ Quarter 3 (Jul 1 – Sep 30) ☐ Quarter 4 (Oct 1 – Dec 31)
Project title: Predicting Scour of Bedrock in Wisconsin		
Project investigator: Hani Titi	Phone: 414-229-6893	E-mail: hanititi@uwm.edu
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WisDOT contact: Jeffrey Horsfall	Phone: 608-243-5993	E-mail: Jeffrey.Horsefall@dot.wi.gov
WisDOT project ID: 0092-12-07	Other project ID:	Project start date: 11/1/2011
Original end date: 5/1/2013	Current end date: 5/1/2013	Number of extensions: 0

Project schedule status:
☐ On schedule ☐ On revised schedule ☐ Ahead of schedule ☒ Behind schedule

Project budget status:

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
94989	11825	27090	28	20

Project description:
The objective of the research is to assess the ability of the newly developed NCHRP 24-29 to characterize the scour for various types of Wisconsin bedrock at selected structures throughout the state. The study will evaluate the need to refine the test procedures and establish a range of typical values of the test parameters for Wisconsin bedrock. The research will also compare the new method to current practice and communicate the potential benefits that can be realized through WisDOT implementation.
The proposed study described hereinafter will directly follow the objectives specified in the RFP from WHRP:

1. We will collect geologic and hydrologic data from selected sites in Wisconsin where bridges are founded on bedrock.
2. We will conduct field and laboratory test to establish parameters that characterize the relationships between the bedrock erosion rate and the hydraulic loading, following methods developed for the NCHRP Project 24-29.
3. We will refine the test procedure and establish models that include a range of parameters specific for Wisconsin bedrock. We will apply the new models to more accurately predict rock scour at Wisconsin bridges.
4. We will also compare the new model to current practice and communicate the potential benefits that can be realized through WisDOT implementation. Final results will be incorporated into the current WisDOT Bridge Manual with additional procedures for bridge scour analysis.

Progress this quarter (includes meetings, work plan status, contract status, significant progress, etc.):

1. Continued work on the literature review
2. Continued work related to the identification of bridge sites as candidate projects for field work

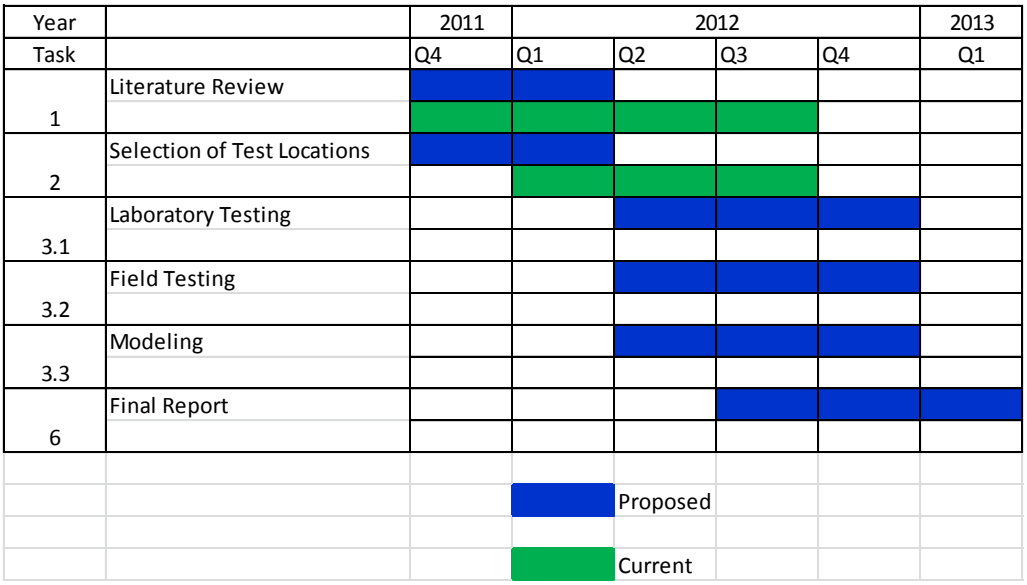
Anticipated work next quarter:

1. Continue literature review
2. Conduct field visits on selected project sites to confirm the suitability of selections based on research criteria
3. Start field work by collected loose rock samples and laboratory testing on some of the identified projects

Circumstances affecting project or budget:

The process of identifying candidate projects took significant effort, input, and analysis from WisDOT engineers (WHRP POC, Bridge Section) and the research team. The process included looking into bridge files/documents to ensure that selected sites have the potential for scour and therefore suitability for this research. Field work includes drilling in foundation rock to obtain samples for lab testing and this may not be possible this quarter and next quarter due to ground conditions (snow, freeze, and potential safety hazard by being close to frozen waters). Therefore, a no cost time extension will be requested.

Attach / insert Gantt chart and other project documentation



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Staff receiving QPR:	Date received:
Staff approving QPR:	Date approved: